The generalized amalgamation of any graph whose terminal is a subgraph admits a super H-antimagic Total Covering

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Abstract

Let {Hi} be a finite collection of a simple connected graph, and suppose each Hi has a fixed vertex v ∈ V (Hi) as a terminal. The amalgamation Hi of v as a terminal is constructed by taking all the Hi's positif integer n, we denote such amalgamation by G = amal(H,n), where n denotes the number of copies of H. If we replace the terminal vertex v by a subgraph K ⊆ H then such amalgamation is said to be a generalized amalgamation of G and denoted by G = gamal(H,K ⊆ H,n). A graph G is is said to be an (a,d) − H − antimagic total graph if there exist a bijective function f : V (G) ∪ E(G) → {1,2,...,|V (G)| + |E(G)|} such that for all subgraphs isomorphic to H, the total H-weights W(H) = Pv∈V (H) f(v) +Pe∈E(H) f(e) form an arithmetic sequence {a,a + d,a + 2d,...,a + (n − 1)d}, where a and d are positive integers and n is the number of all subgraphs isomorphic to H. If such a function exist then f is called an (a,d)-H-antimagic total labeling of G. An (a,d)-H-antimagic total labeling f is called super if the smallest labels appear in the vertices. In this paper, we study the existence of super (a,d)-H-antimagic total labeling of is called super if the smallest labels appear in the vertices. In this paper, we study a super (a,d)-H antimagic total labeling G = gamal(H,K ⊆ H,n) for both connected and disconnected graphs by implementing a partition techniques. The result shows that the generalized amalgamation of any graph H whose terminal is a subgraph admits super H-antimagic total covering for almost feasible difference d.

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